Amendments to the claims:

1. (currently amended) An artificial valve for the replacement of an aortic or mitral heart valve, comprising: an annular body for installation into a valve flap ring of an aortic or initial heart valve, said annular body including, at its outer circumference, means for mounting by surgical procedures and defining in its interior a blood flow passage, flap elements which are pivotally supported in said blood flow passage by pivot support structures and which, depending on their pivot positions, open or close said blood flow passage, said annular body including circumferentially spaced projections extending inwardly into said flow passage toward the area of the largest flow gradient of the blood through said blood flow passage, said spaced projections being provided at their inwardly extending ends with pivot joints on which said flap elements are ~~supported~~ pivotally supported ~~about a pivot axis extending through the pivot joints such that the cross-section covered by the outer part of each valve flap between the pivot axis and the annular body is larger than the flow cross-section covered by the flap in the center area of the annular body, whereby the outer valve parts adjacent the annular body are opened by the flow of blood through the valve in the direction of the blood flow and the inner valve flap parts projecting from the pivot axis into the center of the annular body are opened against the flow of the blood through the valve~~.

2. (previously presented) An artificial valve according to claim 1, wherein, at their inwardly projecting ends, said projections are provided with spaced webs extending further inwardly from said circumferentially spaced projections and being oriented in the flow direction of the blood through said pas-

sage and engaging said flaps so as to form said pivot support structure.

3. (original) An artificial valve according to claim 1, wherein said flap elements have partial circular recesses formed therein symmetrically at opposite sides along a pivot axis of said flap elements and said projections have spherical ends received in said recesses and pivotally engaging said flap elements.

4. (original) An artificial valve according to claim 2, wherein at least one of said webs on each of said projection is formed integrally with said projection.

5. (original) An artificial valve according to claim 3, wherein, in the area of said recesses, said flap element is engaged between two spaced webs arranged and formed so as to permit pivoting of said flap element between said spaced webs.

6. (original) An artificial valve according to claim 5, wherein the, with respect to the blood flow through the valve, downstream web of the webs engaging a valve flap extends essentially normal to the direction of the blood flow through the annular body and has a curved joint surface on which said flap element rolls during the opening and closing movement thereof.

7. (original) An artificial valve according to claim 6, wherein the upstream web of the webs engaging a valve flap extends essentially normal to the flow direction of the blood through the annular body and is provided with two stops defining the open and respectively, the closed position of the valve flap.

8. (original) An artificial valve according to claim 1, wherein said flap elements are spherically curved.

9. An artificial valve according to claim 3, wherein said flap element has a pointed portion extending, in the closed position of the flap element inwardly from said pivot axis of said valve flap and a rounded portion disposed at the opposite side of pivot axis, said pointed and said rounded portions being angled with respect to each other.

10. (original) An artificial valve according to claim 1, wherein said valve includes three flap elements.

11. (original) An artificial valve according to claim 10, wherein, in the open position of said valve, four flow passages are provided, one central and three circumferential passages, between the projections and the respective valve elements, and wherein the location of the valve pivot axis and the form of the valve ring are so selected that all four blood flow passages have about the same flow cross-section.

12. (original) An artificial valve according to claim 1, wherein the interior flow passage through said annular body has a cross-section which decreases from the upstream end thereof toward said projections and then again increases from the area of said projections toward the downstream end of said passage.

13. (original) An artificial valve according to claim 1, wherein the outside cross-section of said annular body increases toward the cross-sectional plane in which the projections are disposed.

14. (original) An artificial valve according to claim 1, wherein said annular body is provided with two spaced annular grooves.

15. (original) An artificial valve according to claim 14, wherein a suturing ring is firmly engaged in one of said circumferential grooves.

16. (original) An artificial valve according to claim 1, wherein said annular body and said flap elements consist of one of titanium and a titanium alloy.

17. (original) An artificial valve according to claim 1, wherein at least one of said annular body and said flap elements is coated by a hard material layer.

18. (new) An artificial valve according to claim 1, wherein said flap elements are supported on said spaced projections about a pivot axis extending through the pivot joints such that the cross-section covered by the outer part of each valve flap between the pivot axis and the annular body is larger than the flow cross-section covered by the flap in the center area of the annular body, whereby the outer valve parts adjacent the annular body are opened by the flow of blood through the valve in the direction of the blood flow and the inner valve flap parts projecting from the pivot axis into the center of the annular body are opened against the flow of the blood through the valve.